



INCENTIVE STRATEGIES FOR DEFENSE ACQUISITIONS



CLASSIFICATION STATEMENT A
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PUBLISHED BY THE
DEFENSE ACQUISITION UNIVERSITY PRESS
April 2001

20020103 041



THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

JAN 5 2001

MEMORANDUM FOR SERVICE ACQUISITION EXECUTIVES
DIRECTORS, DEFENSE AGENCIES
DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Incentive Strategies for Defense Acquisitions

Incentives exist in every business arrangement. The effective application of incentives is key to building successful business arrangements that jointly maximize value for all parties. It is essential that the Department adopt incentive strategies to successfully attract, motivate and reward traditional and nontraditional contractors, thus ensuring successful performance. Incentive strategies must also maximize the use of commercial practices to enhance our ability to attract nontraditional contractors.

Incentives can be monetary or nonmonetary, and should be positive but balanced, when necessary, with remedies for missing specific program targets or objectives. They can be based on price, cost, schedule and/or performance. Regardless of the final composition and structure of the incentive(s), the goal is to encourage and motivate optimal performance.

Historically, choice of contract type has been the primary strategy for structuring contractual incentives. With the exception of competitive firm fixed-price awards, procurement incentives have predominately been based on protected or actual costs. This practice, while effective where costs cannot be precisely estimated, does not always ensure that contractors maximize efficiencies regarding underutilized or inefficient operations, practices and facilities. Such incentives can have the opposite effect of rewarding industry for the retention of inefficient practices or underutilized capability. When cost-based incentives are used, care should be taken to ensure that these unintended consequences do not occur.

Alternatively, non-cost-based incentive strategies more closely approximate commercial agreements and are based on clearly defined performance objectives or product functionality rather than detailed requirements. Such agreements reflect joint goals of efficiency and effectiveness, reflect acceptable risks for all parties, and establish performance metrics. Program teams should structure incentive strategies to attract nontraditional defense entities, as well as to reward successful performance of traditional defense firms. Thorough market research should be conducted to develop a better understanding of the business strategy from both the government's and the contractor's viewpoints, leading to behavior that jointly achieves the mutual goals of all parties (e.g., best value acquisitions and targeting high performance based on best business practices).



The attached guidance amplifies existing policy regarding use of incentives in defense acquisitions. In addition, to assist the acquisition workforce, an incentive guidebook is being developed based on work conducted by the Army and the Massachusetts Institute of Technology. This guidebook will be available at www.acq.osd.mi/ar in January 2001.

A handwritten signature in black ink, appearing to read 'J. S. Gansler', with a long horizontal flourish extending to the right.

J. S. Gansler

Attachment:

As stated

Attachment to Memorandum

INCENTIVE STRATEGIES AND TOOLS FOR ACQUISITION

GENERAL POLICY GUIDANCE

Suppliers should be rewarded for adopting business processes and principles designed to reduce costs and cycle time while maintaining schedule, achieving performance expectations and maximizing efficiency. DoD business strategies should focus on the overarching business considerations related to each acquisition strategy and address the following objectives:

- Use incentives tailored to the specific business case to achieve maximum benefit for both parties.
- Assess the most critical issues related to specific acquisitions, and design incentives to ensure optimal results.
- Design strategies to reflect an understanding of the business case from industry's perspective. Profit, earnings per share, cash flow and return on investment are important industry considerations in entering into business relationships.
- Recognize and reward contractors that strategically focus on efficient and effective management practices, thereby reducing unneeded capacity and maximizing overall value to the customer (e.g., lean industry principles and best practices should be recognized and rewarded including maximum practicable use of small businesses in subcontracting).
- Recognize that a requirement's structure drives business solutions. Match the essential program objectives and potential Incentive arrangements early on, and communicate objectives to industry.
- Agree on Incentives and remedies to ensure successful business relationships.
- Strive to be creative and resourceful; maximize continuous Improvement and joint problem solving, with a focus on performance outcomes.
- Integrate commercial and commercial-like best practices into defense acquisitions to the maximum extent possible to achieve efficiency and effectiveness for both parties.
- Make incentives realistically reflect performance objectives and standards so that they are measurable and attainable.
- Communicate expectations, assessments and any change in focus clearly to maximize the potential performance.

Performance incentives include a broad spectrum of business considerations and range from economic to noneconomic and cost-based to non-cost-based tools, processes and practices. They can also be multidimensional or targeted to specific deliverables or effort. Some incentives may be traditional while others new and innovative, reflecting an understanding of the increasingly rapid pace of change in the commercial marketplace. Performance goals should be achieved through an appropriate contract structure — one that may reflect multiple Incentives or rewards.

PERFORMANCE-BASED BUSINESS ENVIRONMENT

Acquisition strategies should use a performance-based business environment (PBBE) approach to enable government customers and contractor suppliers to jointly capitalize on commercial process efficiencies to improve acquisition and sustainment processes. The PBBE shall be structured to:

- Convey product definition to Industry in performance terms.
- Use systems engineering and management practices, including affordability, integrated product and process development, and support, to fully integrate total life-cycle considerations.
- Increase emphasis on past performance.
- Motivate process efficiency and effectiveness up and down the entire supplier base (i.e., primes, subcontractors and vendors) through the use of contractor-chosen commercial products, practices and processes.
- Encourage life-cycle risk management as opposed to risk avoidance.
- Simplify acquisition and product support methods by transferring tasks to industry where cost effective, risk-acceptable commercial capabilities exist.
- Use performance requirements or conversion to performance requirements during procurement of systems, subsystems, components, spares and services beyond the initial production contract award and during postproduction support to facilitate technology insertion and modernization of operational weapons systems.

INCENTIVE TOOLS

Some specific incentives are identified here, not to limit the potential for using others but to encourage broader thinking and implementation of effective incentives.

Contract Length Considerations

Contract length should be considered as part of an acquisition strategy when appropriate. Long-term contract relationships — beyond five years — can be effective in building and

maintaining strategic relationships with suppliers. In addition, long-term supplier relationships enable DoD to expand its supplier base as companies, once unattracted to the Department, begin to compete for longer-term contracts. Acquisition leaders are reminded to include requirements for small business subcontracting wherever longer-term contract provisions are planned.

Contracts covering requirements for more than one fiscal year provide benefits that include reduced start-up costs, maintenance of a stable workforce, increased competition from small businesses and acquisition streamlining. These benefits are key to the reengineering and streamlining of the Department's business practices. Without long-term contracts, the contractors may be unable to justify making the necessary investments; and, therefore, competition may be diminished.

There are four acquisition strategy considerations that must be addressed whenever contract duration beyond five years is planned. These conditions are appropriate to both competitive and noncompetitive strategies.

1. The strategy must articulate when and how the provisions of the Competition in Contracting Act (CICA) will be addressed, including at what point in the future it will be readdressed (e.g. in a sole source Justification and Approval or in a future competition)
2. Continued performance or contract term must be conditioned on continual successful performance. Performance outcomes must be clearly articulated.
3. Price guarantees, options and cost-based ceilings should be agreed upon by both parties, either competitively or noncompetitively, to ensure that commitments are established and maintained throughout the period of performance. Acquisition personnel are urged to build in flexible pricing guarantees or alternatives (e.g., ceilings or price curves) to adapt to budget and quantity fluctuation.
4. Contract terms must be consistent with statutory funding limitations on the purpose and amount of appropriated funds expenditures. Availability of funds provisions are key to the use of long-term contracts.

Strategic Supplier Alliances

Strategic supplier alliances with industry partners strive to mirror commercial best practices and achieve a basic transformation in the way competition for business occurs and value to customers is increased. A strategic supplier alliance model migrates the Department from a transaction-based contract approach to a commercial portfolio management model priced according to demand. Such alliances have been forged between the Defense Logistics Agency (DLA) and Honeywell Incorporated (catalog prices); DLA-Honeywell-Boeing (parts management); DLA-Hamilton Sundstrand; and DoD-Samoff Corporation (research and development). The DoD Change Management Center (<http://www.acq.osd.mil/ar/cbe>) has more details on strategic supplier alliances.

Strategic supplier alliances strive to create long-term, mutually beneficial partnerships. The following factors support the decision to enter into a long-term strategic alliance agreement:

1. A good business case (other than administrative convenience) for the longer duration exists and is documented in the Justification and Approval or elsewhere in the contract file.
2. Only sole source items that are unlikely to become competitive are on the contract, and a process for checking items periodically to ensure they have not become competitive is in place. The competition review should not be tied to an option exercise (for options longer than one year).
3. A method for removing items from the contract if/when they become competitive (e.g., add/delete clause, termination for convenience clause) exists.

Performance-Based Payments

Performance-based payments, instead of cost-based progress payments, are the preferred way of providing financing payments under fixed-price contracts. Performance-based payments offer the following potential benefits for both the government and contractors: enhanced technical and schedule focus, broadened contractor participation, reduced cost of administration and streamlined oversight, enhanced and reinforced roles of program managers and integrated product teams and increased cash flow. See the USD(AT&L) November 13, 2000, policy memorandum on Use of Performance-Based Payments for more details.

Performance Incentives

Performance incentives are designed to relate profit to the contractor's achieved results based on specified targets. For services such as equipment maintenance, these characteristics may include Mean Time Between Failure (MTBF) or mean time to repair or system availability rates (in-commission rates). Regardless of the measure, performance incentives must be quantified and rewards correlated to performance. Remember that a performance-based requirement can also be an Incentive and can significantly impact what objectives the contractor pursues. For example, a contract for spare parts at a fixed price per part encourages a contractor to sell many spare parts. A contract for "all spare parts and maintenance, required to keep vehicle operational to 98 percent availability rate" and paid as a fixed price per vehicle operational hour, will likely result in fewer spare parts, greater dependability, and less maintenance required.

Schedule Incentives

Schedule incentives focus on getting a contractor to exceed delivery expectations. They can be defined in terms of calendar days or months, attaining or exceeding milestones, and meeting rapid response or urgent requirements. Acquisition teams should also consider adjusting government delivery schedules to correspond with commercial production runs as long as mission needs are met.

Award Fee Contract Arrangements

Award fee contracts are tools that subjectively assess contractor performance for a given evaluation period. They allow contractors to earn a portion (if not all) of an award fee pool that is established at the beginning of the evaluation period. The agency unilaterally determines the amount of earned fee based on evaluation factors established in an award fee plan. In the context of PBSA, the award fee evaluation is based on a subjective assessment as to the extent to which the contractor exceeds the minimum acceptable performance standards.

Past Performance

Appropriately leveraging past performance to improve ongoing performance can be another incentive tool to ensure successful performance. When negative or positive performance assessment information is promptly communicated to the contractor, it becomes an effective way to motivate the contractor to improve performance or to reinforce exceptional performance. This information could affect decisions such as the exercise of option awards or the contractor's ability to receive future contract awards. When adequately documented, poor past performance information could be the sole reason for a contractor not to receive future contract awards. Keep in mind that the integrity of a past performance evaluation is essential.

Competition Considerations

Win-win relationships can be facilitated in both competitive and noncompetitive environments that reward the contractor and increase the probability that the goods and services will be successfully delivered. Source selection strategies should encourage flexible pricing incentive strategies and performance-based requirements. Acquisition teams should emphasize the importance of pre-solicitation conferences, draft requests for proposal and rigorous market research.

Remedies for Nonperformance

Acquisition strategies must specify procedures or remedies for reductions in contract value (e.g., profit or contract length) when services are not performed or supplies do not meet contract requirements. In cases where commercial item acquisition procedures are used, agencies should rely on contractors' existing quality assurance systems, to the maximum extent practicable, as a substitute for unique government acceptance procedures. As always, agencies should not pay for services that do not meet performance requirements.

List of Acronyms

ADR	Alternative Dispute Resolution
AMC	Army Materiel Command
APB	Acquisition Program Baseline
APBI	Advance Planning Briefing for Industry
AUPC	Average Unit Production Cost
ASPR	Armed Services Procurement Regulation
CICA	Competition in Contracting Act
COTS	Commercial Off The Shelf
CPAT	Critical Process Assessment Tool
CPFF	Cost Plus Fixed Fee
CPIF	Cost Plus Incentive Fee
CPM	Contractor Program Manager
DAES	Defense Acquisition Executive Summary
EMD	Engineering and Manufacturing Development
FAR	Federal Acquisition Regulation
FARA	Federal Acquisition Reform Act
FASA	Federal Acquisition Streamlining Act
FFP	Firm Fixed Price
FPIF	Fixed Price Incentive Fee
GPM	Government Program Manager
IPT	Integrated Product Team
IRR	Internal Rate of Return
JDAM	Joint Direct Attack Munitions
LAI	Lean Aerospace Initiative
MNS	Mission Needs Statement
NPV	Net Present Value
ORD	Operational Requirements Document
OT	Other Transactions
PBA	Price-Based Acquisition
PBP	Performance Based Payments
PCO	Procuring Contracting Officer
PM	Program Manager
PPCC	Production Price Commitment Curve
ROI	Return on Investment
SRD	Systems Requirements Document
SSA	Source Selection Authority
TAP	Team Acquisition Process
TOC	Total Ownership Cost
TSPR	Total System Performance Responsibility

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Acknowledgments

This guide reflects the hard work of many people from the Defense Department, the Services, academe, and the defense industry. Special recognition goes to the core team who conducted the research, compiled the findings, wrote major sections, and reviewed and provided constructive feedback for enhanced results. A special thank you goes to William S. Kaplan, who wrote and integrated the multiple revisions that flowed from the many contributions.

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Executive Summary

The Incentives Guidebook provides Defense acquisition and procurement personnel (both government and industry) with a useful framework to effectively structure contractual incentives to achieve overall best value as part of a successful business relationship. It also provides insight to some basic methods and tools useful in conducting the business analysis that forms the foundation for sound incentive design. The Guidebook can be applied throughout the life cycle of Defense programs for both products and services.

The fundamental premise of the Guidebook is the recognition that mutual commitment, by both industry and government, is required to create a cooperative atmosphere for information exchange. Information exchange feeds the joint development of the acquisition (procurement) business case, through which both government and industry articulate their motivations, goals, barriers, and enablers. Once the relationship has been established and the business case clearly understood, incentives can be structured to motivate mutually desired behaviors and outcomes.

The Guidebook is divided into five sections, and relies on Internet links to detailed resources, references, and tools. The intent is to provide the reader with a fundamental framework and appreciation of the methodologies and tools required and available for use in structuring incentives.

1. WHY ARE WE CONCERNED WITH CONTRACTUAL INCENTIVES?

- a. The Department of Defense (DoD) relies heavily on private industry to provide the systems and services that make our military the best in the world.*

DoD relies on private industry to provide leading-edge technologies at an affordable cost throughout a system's life cycle. Consequently, DoD's suppliers must be innovative, efficient, and effective. Lean industry principles and best practices should be recognized and rewarded.

- b. Traditional acquisition concepts and incentive strategies require adaptation to the new business environment.*

The content and character of the government-contractor relationship has evolved into a relationship that is characterized as problematic and adversarial. Not unexpectedly, there often are disconnects between the contractual incentives to achieve desired government-structured performance and the motivational factors driving the contractor.

- c. Properly structured contractual incentives, as part of the overall business relationship, can maximize value for all parties.*

Contractual incentives should target the business relationship between the government and the contractor in such a way as to produce maximum value for taxpayers, for the contractor, for the warfighter, and for the organization in pursuit of its mission. The workforce must not only improve its ability to use existing contractual incentives but also to develop a range of new and innovative contractual incentives.

2. WHAT ELEMENTS CONTRIBUTE TO AN EFFECTIVE INCENTIVE STRATEGY LEADING TO A SUCCESSFUL BUSINESS RELATIONSHIP THAT MAXIMIZES VALUE?

- a. Leadership commitment and innovative thinking are essential for success.*

Leadership will be critical if the acquisition workforce is to evolve from a concept of “getting on contract” to “working through the deal” — a more strategic view that supports the long-term development and execution of a successful business relationship.

- b. The environment must support a trust-based relationship.*

Lack of sufficient trust in government-contractor interactions is a primary barrier to a successful business relationship. Creating and maintaining trust-based relationships is important for cooperation and the satisfaction of government and contractor objectives in today’s business environment. Without trust, a real or lasting relationship becomes more difficult as does the development of an effective incentive strategy that recognizes the needs of both parties.

- c. An acquisition business case establishes the structure for contractual incentives.*

Not only is it essential to build an effective relationship based on mutual trust and commitment, but it is also essential to use that relationship to understand the cultural and financial environment in which a program operates — the acquisition business case.

3. HOW DO YOU BUILD AND MAINTAIN AN EFFECTIVE ENVIRONMENT FOR THE SUCCESSFUL BUSINESS RELATIONSHIP?

- a. The government’s approach must continue to evolve from “getting on contract” to a “trust-based relationship.”*

The DoD Acquisition Reform movement enables more effective communication, improved dispute resolution, and increased flexibility and strength by all parties to better complement one another.

- b. The customer and contractor must understand that they are long-term partners in creating value.*

The customer and contractor are dependent upon each other for the creation of value and success.

c. All parties must recognize that success is often linked to early and meaningful interactions.

The existence of a team committed to partnering does not guarantee success! There are five roadblocks that should be considered:

- Roadblock 1 — Lack of A Proper Foundation
- Roadblock 2 — Failure to Communicate
- Roadblock 3 — Poor Conflict Resolution
- Roadblock 4 — Differences between Military Personnel and Civilians
- Roadblock 5 — Insufficient Team Recognition

d. Partnering in practice.

Eliminating long-standing adversarial attitudes requires more than simply advocating a new philosophy. It requires an understandable and transferable mechanism or process that will be effective. The U.S. Army Materiel Command (AMC) "Partnering for Success Program" is one example of a documented mechanism by which partnering can be achieved.

4. HOW DO YOU BUILD THE ACQUISITION BUSINESS CASE?

a. Understand value and risk from an industry perspective.

Risk is a significant aspect of a company's decision-making process. When the government speaks of risk, it most often refers to technical risk or cost risk. The government must understand that a company interprets risk in a different way. To a company, risk is the potential impact on value of events not proceeding as planned. To a company risk is, therefore, a measure of the likelihood of achieving the financial objectives of the project.

b. Use business case tools and processes to evaluate value and risk.

After establishing an environment conducive to communication and understanding, both partners can begin a joint analysis of the business case — the second critical component of an effective business relationship. Business case analysis serves many roles and is essential knowledge for government and industry in developing and sustaining an effective business relationship. This Guidebook contains references and links to the most widely used government and industry business case analysis tools.

Government organizations seek to gain the best value for their money and to achieve operational requirements balancing cost, schedule, performance, and risk. The best value is often not readily apparent and requires analysis to maximize project value. Government analysis tools include, but are not limited to, market analysis, cost-estimation techniques, cost-benefit and cost-effectiveness analyses, cost-of-delay analysis, joint-cost models, price-commitment curves, and risk-assessment techniques.

Industry uses a wide range of tools to determine where to invest its money to return the most benefit. Methods such as payback period, net present value, and internal rate of return are some of the basic tools used by industry to assess the risks and potential rewards involved in contracting with the government or other commercial entities.

5. HOW DO YOU BUILD AN INCENTIVE STRATEGY THAT MAXIMIZES VALUE?

a. Use the business case as a common baseline, but account for change.

A balance of risk and reward is required for a successful business relationship. Based on partnering, communication, trust, and mutual understanding of the acquisition business case, incentive strategies can be applied that demonstrate to the contractor that its objectives can best be met by successfully meeting the government's objectives. This requires innovation, common sense, and sound business judgment.

b. Apply multiple concepts as indicated by the business case.

In reality, effective incentive strategies for an individual procurement may include several concepts and innovative applications to provide the behavior desired while simultaneously achieving the shared value that the parties seek through the business relationship. The spectrum of incentives can include the following:

- Schedule-Based Incentives
- Cost-Based Incentives
- Performance-Based Incentives
- Organization and Individual Incentives
- Terms and Conditions
- Supply-Chain Incentives

c. Select incentives based on acquired insight and understanding

The *Compendium of Contractual Incentives* (CCI) captures a baseline list of contractual incentives that can be considered after real insight to the business case has been established.

Incentive Strategies for Defense Acquisitions

1. Why are we concerned with contractual incentives?

a. The Department of Defense (DoD) relies heavily on private industry to provide the systems and services that make our military the best in the world.

DoD relies on private industry to provide leading-edge technologies at an affordable cost throughout a system's life cycle. Consequently, DoD's suppliers must be innovative, efficient, and effective.

- Innovation by Defense suppliers will enable warfighting systems to attain the capabilities possible by incorporating the latest technological advances, especially those of nontraditional suppliers from the commercial sector.
- Defense acquisition processes must be more efficient, and cycle time must decrease to meet the wide-ranging set of requirements imposed by today's unstable national security environment. Thus, DoD suppliers must improve their efficiency and cycle time. They must consider and adopt practices proven effective in the highly competitive commercial marketplace. Lean industry principles and best practices should be recognized and rewarded.¹
- DoD will only be able to buy the highest quality goods and services at the best value if Defense suppliers are effective in delivering better products quicker and at a lower price.

Incentive strategies, structured to attract nontraditional suppliers and to focus the energy of other DoD suppliers on innovation, efficiency, and effectiveness, are therefore critical to our military's continued success.

b. Traditional acquisition concepts and incentive strategies require adaptation to the new business environment.

The content and character of the government-contractor relationship has evolved. After World War II, the Federal procurement process became increasingly complex. Absent the motivating forces that operated in the commercial marketplace, the government (for consistency throughout document) marketplace substituted a complex body of laws and regulations dedicated to controlling

¹"Lean" is the efficient delivery of stakeholder value. It applies to all functions in the enterprise value stream. <http://web.mit.edu/lean/>.

The Lean Aerospace Initiative (LAI) consortium, comprising industry, government, labor, and academia membership, has been investigating means to apply lean practices across the aerospace enterprise. Research conducted by LAI into effective incentives (under Policy and External Environment "Economic Incentives in Procurement") shows examples of effective incentive structures applied to six programs of varying sizes and complexity.

performance and product. As laws and policies proliferated and regulatory implementation increased, costs and complexity increased significantly. This evolved into a government-contractor relationship that was characterized as problematic and adversarial as it tried to balance the following two, often conflicting, goals:

- The government sought to maximize contractor performance and gain the best product for the lowest price.
- The contractor sought to minimize risk while maximizing profit and delivering what was expected to the government.

Not unexpectedly, there often were disconnects between the contractual incentives to achieve desired performance structured by the government and the motivational factors driving the contractor. Consequently, the structure of the business relationship often met only performance goals at the expense of cost and schedule goals — usually to the detriment of the user, the mission, and the taxpayer. Available budget dollars provided a cushion for the inefficiencies inherent in the government-contractor relationship.

With declining budgets and the changing security environment, these inefficiencies became more significant, both in terms of resources consumed and inadequate access to key, leading-edge technologies. This led to difficulty in achieving performance goals. The changes and reforms that have occurred since that time were most often intended to address the perceived causes of problems while responding to the needs of the DoD as reflected by budget declines and buildups throughout the total business process.

These changes and reforms didn't take hold until driven by the following two events:

- Realization that the acquisition environment in which DoD operated had changed beyond the limits of the existing acquisition system's ability to adjust or evolve.
- Action by leadership that not only talked about change but also accepted the responsibility for implementing change and formed a partnership with industry to make change a reality.

In 1993, the DoD Acquisition Reform movement launched sweeping changes that heralded an evolution from traditional "principal-agent" relationships with major Defense suppliers to more trust-based relationships with the widespread use of commercial-style business practices and greater civil/military industrial integration. Previously, methods of doing business with the government were affected through changes in the playing field (i.e., ASPR to FAR, CICA, FASA, and FARA).²

These changes have been effective. During the past seven years, DoD has begun to change the traditional control mechanisms used to ensure reasonable prices, on-time delivery, product quality and superior performance. Industry and government have begun to successfully streamline the

²The Federal Acquisition Streamlining Act, the Federal Acquisition Reform Act, and others affected methods of doing business with the government through changes in the Federal Acquisition Regulations.

acquisition process by compressing cycle times, reducing program costs, leveraging commercially available technologies and practices, and shifting from government oversight to placing more responsibility on the contractor through risk management procedures. However, just as the external business environment in which DoD suppliers operate changes rapidly, DoD's business relationships with these companies must continue to be reexamined.

c. Properly structured contractual incentives, as part of the overall business relationship, can maximize value for all parties.

The move toward balanced focus and shared value in the development of successful business relationships is essential for continued success. The government must continue to adapt its approach to the business relationship and to incentivize successful contractor performance using lessons learned from its experience and from commercial industry. These changes should target the business relationship between the government and the contractor in such a way as to produce maximum value for taxpayers, for the contractor, for the warfighter, and for the organization in pursuit of its mission.

A critical component of this reexamination must be not only to improve our ability to use existing contractual incentives but also to develop a range of new and innovative contractual incentives that recognize the results the contractor and the government want to achieve while avoiding the undesirable outcomes. The acquisition workforce must be able to employ these contractual incentives, both cost-based and non-cost-based, in a manner that ensures procurement of the highest quality goods and services efficiently, effectively, and at the best value.

Structuring and implementing an effective incentive relationship encompasses more than initiatives, change elements, policy memos, and rule changes. Incentive strategies must take into account the perspectives and motivations not only of corporate- and policy-level managers but also the functional managers who have day-to-day responsibility for operating within the specific acquisition regulations and contract provisions. The challenge is to determine what contractor behavior you want to motivate and then structure the proper incentive strategy to effectively motivate that behavior.

2. What elements contribute to an effective incentive strategy leading to a successful business relationship that maximizes value?

a. Leadership commitment and innovative thinking are essential for success.

Leadership is the process of inspiring change and empowering followers to achieve greater heights, to improve themselves and to improve organization processes. Leadership is an enabling process that, when successful, causes all to accept responsibility and accountability for themselves and their assigned processes.

Leadership will be critical if the acquisition workforce is to evolve from a concept of “getting on contract” to “working through the deal” — a more strategic view that supports the long-term development and execution of a successful business relationship. That business relationship must not only successfully deliver a product or service but also maximize value for both parties. This change can be affected by better communication between the parties and the formation of partnerships based on trust relationships. In different areas of industry and government, however, many contractors and agencies still do not see the opportunities and benefits of changing their approach. This historical relationship between government and industry limits the development of new approaches to acquisition problems and common solutions that benefit both parties.

Leadership that is committed to and understands this change is necessary at all levels to ensure that innovative or “different” approaches become embedded in the culture. For example, the contracting workforce is effectively transitioning to thinking of themselves as “business advisors and managers” with a key role in “thinking through the deal” and proposing solid incentive strategies.

Likely consequences of changes in philosophy and execution may be some failures. These must be accepted if innovation is to succeed. Innovators should be rewarded even if they fail. Offering incentives as a reward for innovation continually stimulates progress. This support to the workforce is necessary to overcome the natural fear of failure and the consequent reluctance to be innovative. The workforce should be convinced that there is no punishment for carefully considered risk-taking. In fact, it should be demonstrated that the “no penalty, safe, business-as-usual approach” is fast becoming outmoded and less effective in today’s rapidly changing acquisition environment.

b. The environment must support a trust-based relationship.

An effective business relationship requires an environment of cooperation and commitment by both parties. Early involvement between government and contractor has been promoted as an ingredient for success. Early involvement alone, however, is insufficient. Rather, the process of early involvement creates a cooperative atmosphere that greatly influences the probability for success by:

- Enabling a team relationship that possesses clear direction and goals that are developed at all levels; and
- Creating an environment that supports and sustains a clear understanding of the acquisition (procurement) business case — the goals of the procurement and the motivations of all interested parties associated with the procurement.

Lack of sufficient trust in government-contractor interactions is a primary barrier to a successful business relationship. Creating and maintaining trust-based relationships are important for cooperation and the satisfaction of government and contractor objectives in today's business environment. Without trust, a real or lasting relationship becomes more difficult as does the development of an effective incentive strategy that recognizes the needs of both parties.

All successful working relationships are trust-based. The level of trust evolves over time. Initially, most relationships are economically based. Trust develops because the repercussions of breaking trust are usually prohibitive. After a successful history of interaction, the trust level evolves in a way that enables partners in the relationship to predict each other's behavior. At the highest level of trust, one party is able to identify with the other's values and goals and act in a manner that ensures mutual best interest. The parties respect and trust each other sufficiently to examine the situation and develop an innovative and mutually satisfying response to a problem or issue as a matter of course. When trust reaches this level, the resulting partnership becomes a key ingredient in a successful business relationship.

Partnering is a commitment between government and industry to improve communications and avoid disputes. It is accomplished through an informal process with the primary goal of providing the customer with quality weapons, supplies, and services — on time and at a reasonable price.

Partnering constitutes a mutual commitment by the parties about how they will interact during the course of the contract with the primary objective of facilitating improved contract performance through enhanced communications. As represented by Figure 2-1, The Bridge to Partnership³, it is primarily an attitude adjustment through which the parties to the contract form a relationship of teamwork, cooperation, and good-faith performance. Partnering requires the parties to look beyond the strict bounds of the contract to develop this cooperative working relationship that promotes their common goals and objectives.

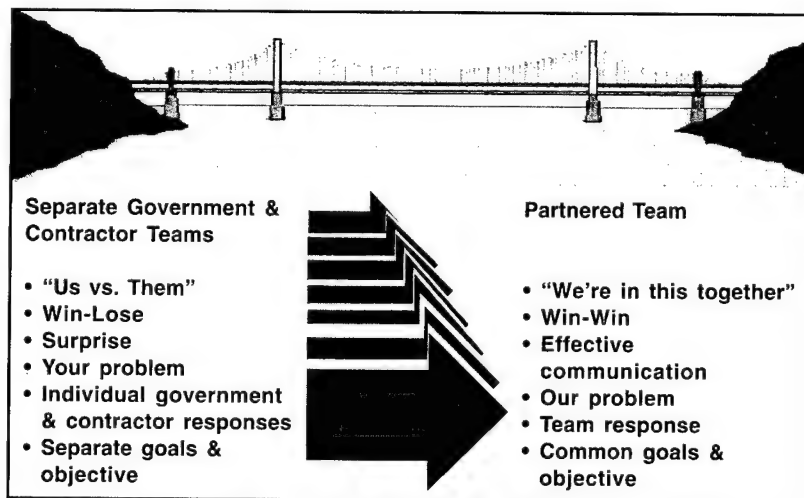


Figure 2-1. The Bridge to Partnership

³U.S. Army Materiel Command (AMC). Partnering for Success: A Blueprint for Promoting Government-Industry Communication & Teamwork, p.6. http://www.amc.army.mil/amc/command_counsel_text/partnering-text.html (30 October 2000).

c. An acquisition business case establishes the structure for contractual incentives.

Not only is it essential to build an effective relationship based on mutual trust and commitment, but it also is essential to use that relationship to understand the cultural and financial environment in which a program operates — the acquisition business case.⁴

Successful programs carefully consider the environment including a variety of influences⁵ (barriers and enablers) and factors⁶ (motivation) that impact the formation and the outcome of the business relationship. Influences, as shown in Figure 2-2, are environmental in their impact upon the development and execution of the business relationship.

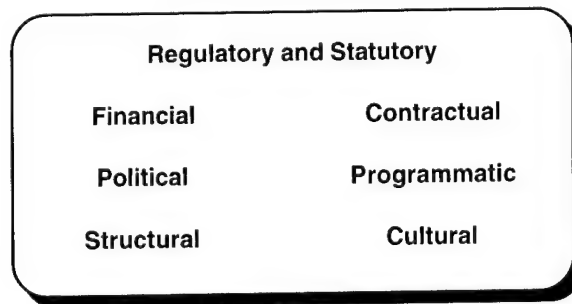


Figure 2-2. Influences

Factors, as shown in Figure 2-3, that lend themselves to control by the government are critical in planning the procurement and fulfilling the requirement. For example, the structure of the requirement can often drive potential solutions and impact incentive arrangements. Factors that lend themselves to control by the contractor are those that guide its corporate planning, decision making, and participation decisions (e.g., bid and no bid). Together, this spectrum of factors constitutes a major part of the business case that must be clearly understood within the context of the partnering relationship.

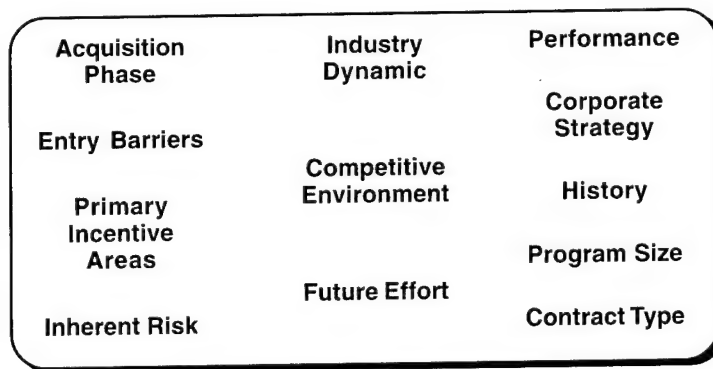


Figure 2-3. Factors

⁴The terms "acquisition business case" and "procurement business case" are used interchangeably in this document.

⁵Assistant Secretary of the Army (Acquisition, Logistics, and Technology). *Constructing Successful Business Relationships: Innovations in Contractual Incentives*. p. 19. <http://acqnet.sarda.army.mil/library/final/finalfrm.htm> (30 October 2000).

⁶<http://acqnet.sarda.army.mil/library/final/finalfrm.htm>, p. 25.

For the government, these considerations are key decision points used in crafting the acquisition and contract strategy for the procurement. For the contractor, they initially impact the bid decision, and then they impact the price and performance commitments and other terms and conditions that the contractor is willing to propose in entering into a business relationship with the government.

Unique government and contractor knowledge and culture (beliefs and values) may drive a differing assessment of any one of these considerations. Raising and discussing these differences provide an opportunity to improve the understanding of the business case and to provide the insight necessary for understanding each other's motivation.⁷ This understanding can lead logically to considering which contractual incentives are needed by industry and can be offered by government to meet the goals and objectives of both parties.

⁷The Factor CollaborationSM process is a tool that can be used without restriction to accomplish this, <http://acqnet.sarda.army.mil/library/final/finalfrm.htm>, Area 5.

3. How do you build and maintain an effective environment for the successful business relationship?

a. The government's approach must continue to evolve from "getting on contract" to a "trust-based relationship."

The DoD Acquisition Reform movement enabled more effective communication, improved dispute resolution, and increased flexibility and strength by all parties to better complement one another. In spite of these changes, however, the government still does not have full flexibility in establishing a trust-based relationship. A myriad of statutes, acquisition regulations, and guidance continue to provide the marketplace framework within which the government contracts for goods and services. Although contracts have an inherent "trust-building" function, which enables the parties to construct and maintain a relationship based on concepts of shared value and reciprocity, the government customer and industry seller must establish a trust-based relationship prior to, or at least simultaneously with, contract formation.

Today's concerns for "better, faster, cheaper," which are driving the evolution of methods for effectively addressing the existing government-contractor business relationship, continue to evolve and provide the opportunity for continued success. The understanding and effective use of incentive relationships have become part of an ongoing search for improvements and flexibility to better meet defense needs by properly motivating excellent contractor performance.

b. The customer and contractor must understand that they are long-term partners in creating value.

The customer and contractor are dependent upon each other for the creation of value and success. The government usually cannot efficiently produce the products and services it needs. Likewise, the government is an important market for defense contractors, who are dependent upon it for economic gains and returns. Success and failure, however, may not be mutually identifiable. While one party may gain advantage in the current contract, both may suffer in the long term. The customer and contractor both benefit when they consider themselves long-term partners rather than competitors.

An "in-balance" or "win-win" scenario, where both parties meet their fundamental objectives, can take a variety of forms. At the basic level, achieving this ideal state requires adaptability, effort, and some willingness by both parties to take the risk of going beyond familiar practices. This may involve creating partnerships between customer and contractor that meet the objectives of both. It may also include adapting or changing the traditional roles played by each partner, whether in a competitive or sole source environment. The customer-contractor relationship generally falls within one of the following three categories.

- **Market-Driven:** In a market-driven relationship, the government customer recognizes that commercial products provide most, if not all, the performance required. Moreover, the government has little market power as a customer to dictate custom configurations without paying

heavily; thus, it must accept commercial off-the-shelf (COTS) products. This is often facilitated through innovative contracting, employing the latest revisions to the FAR. Extensive teaming efforts may not be necessary.

- **Military-Unique:** In this case, the government customer requires a capability that cannot be satisfied by existing commercial products; and, hence, military-unique hardware is required. Because this situation creates mutual dependence, successful programs create close partnerships to facilitate communication and the flow of information to ensure that both partners' objectives are understood and met by the contracting agreement.
- **Innovation-Driven:** In this case, the customer and contractor shift their focus from a product-buying agreement to a broader focus on providing "total customer solutions" or warfighting capability. The roles played by each partner are reexamined to identify the best relationship that will provide the needed capability over an extended period of time.

These relationships can be found in the contractor's supply chain, as well. They can be long-term or short-term. In some cases, they can be viewed in the form of long-term links focused on repeat business that may or may not include close, formal ties with their suppliers and customers. Some firms, however, are moving closer to a "partnership" model, which is based on close cooperation from the design of products and processes through production and support. These relationships can also include extensive exchanges of skills and information.

c. All parties must recognize that success is often linked to early and meaningful interactions.

Partnering can clearly be an enabler to success. The government and the contractor will likely have people whose backgrounds are, by definition, quite diverse and who often significantly differ in the way they think, communicate, problem solve, and work. When diverse government and industry program teams effectively leverage their differences, they make higher quality decisions because their synergism allows realism, increased complexity, and the ability to better recognize an outsider's view.

However, this high-performance state does not come without considerable thought, effort, and foresight by team leaders. *The existence of a team committed to partnering does not guarantee success!* Consider the following five roadblocks⁸ to successful and effective partnering.

Roadblock 1 — Lack of A Proper Foundation

The first roadblock to high performing government-contractor team partnerships is the failure to establish a firm foundation. Diverse partnerships need a foundation upon which a working relationship is built. It is best if a partnership establishes this foundation when the government-contractor team first forms and the elements of the foundation should then be periodically discussed and modified by the team. A partnership's foundation consists of several components: mission clarity, stated values, empowerment limitations, and defined processes.

⁸Steven Thoman, "Roadblocks to Effective Team Dynamics in the IPPD Environment: Successful Teams Leverage Their Differences." *Program Manager: Defense Systems Management College*, July-August 2000, <http://www.dsmc.dsm.mil/pubs/pdf/pmpdf00/thomj-a.pdf>.

A partnership's mission may seem obvious, but it is vital that each member understands the team's purpose, vision, and goals in the same way. To achieve this common understanding, leaders must provide:

- A shared purpose;
- Short-term, long-term, and end game goals;
- Measures for goal achievement; and
- A timeline for goal achievement.

Next, partnership members must generate and believe in a shared-value system of team interaction. Clear ground rules must be formulated by the partnership and accepted by each member. These ground rules form the rules of engagement, a framework for team conduct when interacting with one another and externally to the partnership. The rules of engagement should be established, periodically reviewed, and modified any time the partnership believes it necessary.

1. Empowerment is not a ticket for management to exclude themselves from the working level and then be able to point a finger of accountability should things go wrong. When managed appropriately, empowerment is documented with well-defined limits that are understood by team leaders, individual team members, and functional area managers outside the program. This is particularly important to ensure that team members have authority to make most decisions regarding their functional area without having to constantly check with superiors. In addition, by assigning team and individual responsibilities, problems can be avoided that might otherwise arise when authority is perceived or unduly assumed. It is important that teams, both government and contractor, clearly understand the parameters in terms of authority and responsibility. Dealing with oversight and management issues in a teaming environment is often problematic. Planners should address these issues within the business relationship to enhance trust while recognizing organizational limitations.

Finally, the leader must provide some overarching policies and processes. This element of the foundation helps facilitate team interaction and accomplishment of goals. Processes for decision making, issue nomination and resolution, communication, and administrative functions are some examples suggested as mandatory for high-performing teams to meet their goals.

Roadblock 2 — Failure to Communicate

On a program with multiple issues and levels of complexity, *ineffective communication can become common*. Effective communication takes time and planning by the leader, whose precedent will set the tone for the team. Much team communication occurs during meetings. Ineffective meetings drain productivity because the number of members at the meeting multiplies any wasted time. Effective meetings provide read-ahead information, including an agenda, data to be discussed, and the meeting objective (status meeting, decision meeting, etc.). While not always possible or reasonable, sticking to the agenda topics and time limits should be a common practice; this prevents overassessment of less than critical issues.

Partnerships that act like committees, where each member defends their own constituent's interest, will not promote the environment of a common purpose. Leaving time on the agenda for candid discussions saves time later when conflicts would otherwise arise. Periodic status meetings that provide face-to-face communication is a must; using e-mail only is insufficient and leads to miscommunication and confusion. Finally, beware of communication that is too rapid. With today's technology and the emphasis on empowerment, rapid communication can lead to a problem if a customer is aware of problems/issues of which management is unaware.

Roadblock 3 — Poor Conflict Resolution

Conflict in any team is inevitable and many successful managers agree that conflict is healthy, even vital. However, conflict becomes unhealthy if not managed appropriately. Team leadership best manages conflict by providing team members the tools to resolve conflicts themselves and by quickly addressing issues when self-resolution approaches are not successful.

Team members need to be trained in conflict resolution methods to enable problem solving without finger pointing. The lack of training can result in a failure to understand differences and may increase the conflict level. Once trained, members in conflict must first agree that there is a problem, agree on exactly what the problem is, search for a solution, agree what each must do to mitigate the issue, and then follow up. Individuals learn to resolve differences by acting early to acknowledge conflict, directly engaging the other party with whom the conflict exists, responding rationally and without emotion, and by dealing with each other honestly and directly.

At times, management needs to recognize when self-resolution approaches are not effective and intervene in the situation. In such cases, the leader should resolve conflict with all parties present.

Roadblock 4 — Differences between Military Personnel and Civilians

Another challenge facing the leadership is *creating high-performing teams consisting of military and civilian personnel whose cultures and perspectives can be significantly different*. While this situation is often not a significant issue, it sometimes can hinder partnership capability. Issues can include differing perceptions; biases among either group; and differences in organizational backgrounds, cultural backgrounds, and power interests.

Should this type of conflict creep its way into the team environment, the leader would be well-advised to take time to orient both groups to the other's culture. Dictate-and-take-charge Service members will be most effective when they recognize and alter their leadership style from the field to the corporate setting. Each group needs to recognize the benefits of both functional expertise and operational experience.

Roadblock 5 — Insufficient Team Recognition

Insufficient recognition is a roadblock that keeps a high performing partnership from sustaining long-term performance. Leaders must place emphasis on the importance of team accomplishments and should take every opportunity to celebrate them. In addition, an incentive system must be generated to provide rewards to partnerships, not individuals. From a near-term standpoint, collective work products can help lead to collective recognition.

d. Partnering in practice.

Eliminating long-standing adversarial attitudes requires more than simply advocating a new philosophy. It requires an understandable and transferable mechanism or process that will be effective. The U.S. Army Materiel Command (AMC) Partnering for Success Program⁹ is one example of a documented mechanism by which partnering can be achieved. The goal of the AMC partnering program is to promote government-industry communication and teamwork throughout the acquisition process.

The AMC partnering program has been used successfully for many years in construction contracting by both industry and the U.S. Army Corps of Engineers. In addition, the program has significantly expanded the application of the partnering process to research and development, materiel acquisition, base operations, and engineering and support services contracting. You can find the entire guide and supporting material at http://www.amc.army.mil/amc/command_counsel/partnering.html.

Alpha Contracting is another example of a partnering mechanism that focuses on a specific phase of the acquisition cycle. Alpha Contracting exploits the principles of concurrent and integrated rather than serial processing in acquisition to reduce acquisition cycle time. From solicitation development through proposal preparation, to evaluation, negotiation, and award, Alpha Contracting relies on a team approach to concurrently develop the scope of work, price the work, and prepare the contract for execution. More information on Alpha Contracting is available at <http://pcm508.pica.army.mil/acqplan/alphacontract.htm> and at <http://web.deskbook.osd.mil/valhtml/1/13/132/1322/1322W02.htm>.¹⁰

Another approach is the F-16 Systems Program Office Air Force/Industry Team Acquisition Process (TAP). The TAP was developed as a joint initiative between the government and the F-16 contractors to infuse jointness and concurrency into the change process by modifying the sequence of serial processes without introducing any effective changes to the contract proposal structure. Related information on TAP can be found at http://www.safaq.hq.af.mil/acq_ref/stories/f-16_1.html.¹¹

⁹http://www.amc.army.mil/amc/command_counsel/partnering.html.

¹⁰U.S. Army Tank and Automotive Command (TACOM). "Acquisition Network (AcquiNet) Map Rooms—Alpha Contracting." <http://pcm508.pica.army.mil/acqplan/alphacontract.htm> (30 October 2000); Office of the Secretary of Defense. *Defense Acquisition Deskbook*. <http://web.deskbook.osd.mil/valhtml/1/13/132/1322/1322W02.htm> (30 October 2000).

¹¹Assistant Secretary of the Air Force (Acquisition). "Acquisition Reform Success Story: F-16 Fighting Falcon FY96 Air Vehicle." http://www.safaq.hq.af.mil/acq_ref/stories/f-16_1.html (30 October 2000); Office of the Secretary of Defense. *Defense Acquisition Deskbook*. Additional information is available in the *Defense Acquisition Deskbook* authored by Joyann Miner, "Team Acquisition Process: A Joint Effort," Lockheed Martin, Tactical Aircraft Division, April 1999.

4. How do you build the acquisition business case?

a. Understand value and risk from an industry perspective.

A company's activities consist of a series of projects or products that generate economic value. There are many methods that can be used to increase the economic value of a project. To increase profit, one can either increase the income or lower the cost of the project. When looking at the long-term returns, one can also increase the probability of winning the next contract. Some companies, depending on their situation, are more interested in near-term cash flow, while others may be more interested in long-term business commitments.

Risk is a significant aspect of a company's decision-making process. When the government speaks of risk, it most often refers to technical, schedule, or cost risk. The government must understand that a company interprets risk in a different way. To a company, risk is the potential impact on value of events not proceeding as planned. Risk to a company is, therefore, a measure of the likelihood of achieving the financial objectives of the project. Companies and investors are willing to accept larger risks for higher returns.

For a company, financial risk can be driven by many factors in a project. *Technical risk* is just one element. If a company cannot get a design to function properly, then it may have to spend significant additional dollars correcting the problems. The future survival of the project and the potential for future contracts may be affected. Other risks include market risk, price risk, and schedule risk; all can significantly affect a project's financial performance.

Market risk is the likelihood that the government will purchase the planned number of units. *Price risk* is based on the company's ability to maintain the price of the product. *Schedule risk* is based on the likelihood that the project meets its planned schedule. The type of contract structure also affects the financial risk to a company. Fixed-price contracts, especially in research and development efforts, place significantly higher risks on the contractor than cost-plus contracts, where the government largely accepts the financial risk by allowing the contractor to charge all of its costs to the government.

Since increasing economic value is the objective of any company, there is little doubt that companies pay close attention to the economics of a project as reflected in their profit, cash flow, and earnings per share. Poor decisions, excessive risk, and bad business models can quickly result in money-losing endeavors. Defense companies rely on many economic tools to determine the return on investment and the risk of a potential project. Their assessment results drive a variety of decisions, which directly impact the ability or desire on the part of industry and government to contract for and engage in a venture. The acquisition workforce must be able to apply business case analysis to incentive strategy and application. What follows is a survey of tools available that can be used to assess value and to understand the business case. Good analyses will likely draw upon several different methods dependent upon the situation.

b. Use business case tools and processes to evaluate value and risk.

The Role of Business Case Analysis

After establishing an environment conducive to communication and understanding, both partners can begin a joint analysis of the business case — the second critical component of an effective business relationship. Business case analysis serves many roles and is essential knowledge for government and industry in developing and sustaining an effective business relationship.

First, it documents project goals, objectives, and risk assessments and applies weighted values to project characteristics, including performance, cost, and schedule.

Second, business case analysis can be effectively used to derive an incentive strategy. For incentives to be effective, they must be large enough to motivate behavior and provide a return meaningful enough to justify the behavior change. For example, if a company performs on a cost-plus contract and covers \$10,000 of overhead per month, that company is unlikely to be incentivized with \$2,000 per month for accelerating and completing the project.

Third, the business case is necessary in the development of supporting (risk) analysis to aid in justifying and communicating the incentive strategy and its expected outcome. Thorough analysis and understanding are critical in convincing all participants that incentives are both necessary and mutually advantageous. This includes considering the desirable and undesirable outcomes for both parties.

Government and industry typically employ a different set of tools when evaluating a given project for value and risk. It is critical, however, for each partner to understand the process by which the other partner determines value and assesses risk. This understanding leads, first, to the ability of the government to attract potential bidders based on a project's prospective value and risk and, secondly, to the development of mutually beneficial incentives.

Influence and Factor Analysis

In Section 2, the concept of influences and factors that affect government and industry decisions and the outcome of the business relationship was introduced. These influences and factors must be clearly understood early in the process of building the acquisition business case. They define the motivations and constraints of all parties and, consequently, are a necessary input to the more analytical phase of the process where tools and methodologies are used to evaluate value and risk.

Influences

Influences¹² act upon the creation and execution of a business relationship. They include:

- **Cultural** beliefs, which are held by industry and government regarding operation of their business relationships and often result from training and specific patterns of business behavior ingrained over time;

¹²Assistant Secretary of the Army (Acquisition, Logistics, and Technology) Constructing Successful Business Relationships: Innovations in Contractual Incentives. Area 2. <http://acqnet.sarda.army.mil/library/final/finalfrm.htm> (30 October 2000).

- **Structural** mechanics of the business relationship approach and processes that operate within this relationship;
- **Statutory and Regulatory** restrictions, mandates, or guidance that affect the structure and execution of the business relationship;
- **Financial** impacts to the business relationship from the appropriation process and the internal process of allocating funds within the corporate industry and government management process;
- **Contractual** impacts on the contract agreement (structure) and on specific contractual relationships;
- **Programmatic** influences affecting program management plan execution; and
- **Political** impacts of congressional actions as well as those of government and industry on the business relationship.

Factors

Factors¹³ that lend themselves to influence by the government are essential to planning the procurement and fulfilling the requirement. Factors that are inherently influenced by the contractor are those that guide its corporate planning, decision making and participation decisions (e.g., bid and no bid). Together, the following spectrum of factors constitutes a major part of the business case that must be clearly understood within the context of the partnering relationship:

- **Requirement:** What is needed and being purchased — systems, spares, base support, services, construction, commercial items, or information technology — and how it is specified or described.
- **Acquisition Phase:** The major phase of the acquisition cycle — research and development, production, or sustainment.
- **Primary Performance Risk Parameters:** There are three main performance parameters that are targeted by contractual incentives: technical performance, cost, and schedule.
- **Size:** Size is the relative assessment as a “large” or “small” procurement. For industry, it is a function of internal or corporate definitions of size; and for government, it is defined by the FAR.
- **Contract Type:** While vehicles such as “other transactions” may be considered, the two major types of contract vehicles of interest here are *fixed price* and *cost reimbursement*.
- **Program Stability:** Program stability is the susceptibility to disruptions in funding, schedule, requirements, and political and other support. While government and contractor view basic program stability in similar light, the contractor may view stability in additional ways.
- **Program/Contract Flexibility:** This factor includes program flexibility and adaptable contract vehicles.

¹³ Assistant Secretary of the Army (Acquisition, Logistics, and Technology) Constructing Successful Business Relationships: Innovations in Contractual Incentives. Area 3. <http://acqnet.sarda.army.mil/library/final/finalfrm.htm> (30 October 2000).

- **Competitive Environment:** The government, within the laws that require competition or a justification for its absence, evaluates the opportunities to compete the procurement and the effectiveness of competition in successfully fulfilling requirements. The government evaluates the marketplace for the goods or services required and assesses the conditions that might adversely affect the opportunities for contractors to successfully compete.

With respect to incentives, the degree of incentivization applied may directly affect the number and type of offerors that consider the procurement opportunity. The contractors assess the obstacles or challenges they face to become a “player” in the procurement. The perceived importance and value of incentives will determine participation.

- **Performance History:** The government considers past performance of contractors as an indicator of future performance. Contractors are interested not only in how this assessment will affect their win probability but also in how they are viewed within the industry or marketplace — their competitiveness.
- **Future Effort:** Future effort is the opportunity for future contracts, for follow-on work, work related to other programs, spares, and other support.
- **Corporate Strategy:** While the government is concerned with a contractor’s approach to the procurement, this area primarily involves the contractor. Areas of importance can include:
 - The impact of the procurement to return on investment (ROI);
 - Impact on cash-flow timing;
 - Impact on market share;
 - Access or opportunity for improvements in technology;
 - Timing considerations, such as “first to market” advantages; and
 - Supply-chain considerations, including maintaining good relationships with suppliers and processes that lend themselves to an advantage for other contracts.
- **Inherent Risk:** The government views this factor as an assessment of contractor capability to handle or mitigate the commonly understood areas of risk (cost, schedule, and performance) during the performance of the contract. There are two components: the probability of failure to achieve the desired goals and the consequences of that failure. The contractor also views this factor within the context of business and market risk. This includes the opportunity costs of investment in this effort compared to other investments and the costs associated with failure in the marketplace. Business risk also includes such areas as the potential for changes in business base, rates, and inflation during the terms of the contract.
- **Industry Dynamic:** This factor addresses the maturity of the industry area that would be covered by the procurement. The government focus can include assessing the opportunity for participation and the necessity and structure of incentives to attract interest. The contractor is interested in the opportunity for growth within its industry: Is it increasing (e.g., in a new and innovative technology area)? Has it leveled off? Are opportunities declining?

Factor CollaborationSM is one process by which both partners assess the influences and factors that impact the structure of a potential business relationship. This methodology promotes and supports a “meeting of the minds” with respect to the procurement and its business case in the important areas of requirements, influences and factors, motivation, and incentives.

Factor CollaborationSM, as part of a comprehensive examination and understanding of the business case, facilitates the gathering of critical information necessary to the construction of a successful business relationship and can be applied to both sole source and competitive situations. More information can be found at <http://acqnet.sarda.army.mil/library/final/finalfrm.htm>, Area 5, p. 33.¹⁴

Government Tools and Methodologies

Government organizations seek to gain the best value for their money and to achieve operational requirements balancing cost, schedule, performance, and risk. The best value is often not readily apparent and requires analysis to maximize project value.

There is a range of tools that can assist the acquisition workforce in analyzing and determining the proper balance of project value. These tools include, but are not limited to, market analysis, cost estimation techniques, cost-benefit and cost-effectiveness analyses, cost-of-delay analysis, joint cost models, price commitment curves, and risk-assessment techniques. Below are brief descriptions of these business case analysis tools with links to additional, detailed information.

Market Research and Analysis

Market analysis¹⁵ is the first step in determining project value and expected costs. In this largely fact-finding stage, a significant amount of information is collected in an attempt to frame what can be done, when it can be done, and what it will cost. Market analysis includes discussions with customers and industry suppliers concerning project value, technical possibilities, and costs. This period is often referred to as the “fuzzy front end” as the program has to craft a range of workable solutions from a wide range of possibilities, often with little hard data.

Customer Surveys

Customer surveys¹⁶ enable essential discussion with customers to help determine what they value, how much they value it, and the weight of various technical possibilities. For instance, in major systems procurement, Mission Needs Statements (MNSs) and Operational Requirements Documents (ORDs) often provide minimal guidance about the value of meeting the threshold or the objective requirement for key project parameters. To make the inevitable trade-offs, the program must understand what customers value and may often need to assist them in defining it.

¹⁴ Assistant Secretary of the Army (Acquisition, Logistics, and Technology) (Research, Development, and Acquisition). *Constructing Successful Business Relationships: Innovations in Contractual Incentives*. Area 5, p. 33. <http://acqnet.sarda.army.mil/library/final/finalfrm.htm> (30 October 2000).

¹⁵ Information regarding market research articles, software tools, surveys, and resources can be found at @ResearchInfo.com. <http://www.researchinfo.com/> (30 October 2000).

¹⁶ Information regarding market research articles, software tools, surveys, and resources can be found at <http://www.researchinfo.com/>.

There is a range of methods that can be used to gather customer opinions, including interviews, questionnaires, focus groups, and observations of their operations. Interviews are a core part of the research process. They allow for an in-depth inquiry of opinions. Questionnaires often allow a wider range of opinions, but they have less depth. Focus groups allow for interaction and discussion among participants and are often useful in discussing various approaches. Observation of customer operations provides insight into actual operations, rather than perceived operations relayed through interviews.

Industry Surveys

Industry surveys¹⁷ provide programs with an ability to determine the range of technical solutions that can meet customer needs. The goal is to determine the range of possibilities, their availability, and their likely cost. If the system under development has commercial equivalents or a related military system, a thorough analysis of the existing systems is required. An understanding of program aspects that are important to these related programs can help frame the current problem and identify current project aspects that are likely to be key value drivers.

Cost Estimation

Cost estimation¹⁸ has received significant attention over the years as DoD regulations call for independent cost assessments of all major programs.

Cost estimation entails three methodologies: analogy, parametric, and engineering. The type of cost estimation technique used depends on the information that is available at the time. One shortfall with cost estimation is that the various cost models do not adequately account for the effects of time.^{19,20}

Comparative Analysis (Analogy) is based on comparable systems and makes appropriate adjustments to determine the expected costs based on previous or existing systems. This is the easiest and most often used method and is usually based on previous programs or on an individual's experiences. One must be careful that the systems are truly comparable and that the cost basis of the project has not changed with the times. For example, the cost basis of computer systems has changed drastically.

Parametric estimation uses standard rules based on experience to estimate cost. An example of a parametric method that has proven useful over the years is "cost per pound" of an aircraft. For a large aircraft over a significant number of years, the cost per pound of aircraft has proven to be relatively constant. Based on mission, speed, and range, the aircraft weight could be accurately

¹⁷Information regarding market research articles, software tools, surveys, and resources can be found at <http://www.researchinfo.com/>.

¹⁸Assistant Secretary of Defense (Command, Control, Communications, and Intelligence). "DoD Costing References." <http://www.c3i.osd.mil/bpr/dodim/costweb.html> (30 October 2000). The DoD Costing References site contains DoD costing policy and guidance references, standard cost factors, links to professional societies, and references to DoD-developed costing software tools and models.

¹⁹McNutt, R.T. *Reducing DoD Product Development Time: The Role of the Schedule Development Process*. Massachusetts Institute of Technology. 1998. Dissertation. http://www.safaaq.hq.af.mil/acq_ref/cycletime/drivers/ (30 October 2000).

²⁰According to interviews with representatives of all Service and OSD cost analyst organizations, the effect of time on cost models is minimal. Data on actual programs surveyed by the Massachusetts Institute of Technology indicate that the relationship between development time and development costs is significant — development costs are related to development time to the fourth power.

estimated. Parametric estimations were developed based on historical projects' cost and weight data. These estimation techniques are only as good as the data that support them and their relevance to the project at hand.²¹

Detailed Cost Estimates are based on the functional (engineering) aspects of a project and also are known as "bottom-up" cost estimates. More information is required to develop these cost estimates, as designs and processes are often not identified. Cost can be estimated based on the work breakdown structure and the plans to carry it out.

Cost-Benefit Analysis

Cost-benefit analysis²² is a method that compares system benefits and costs. The cost-benefit ratio is simply *the ratio of a project's benefits divided by its total cost*. Cost-benefit ratios greater than one indicate those benefits are greater than the costs. It is assumed that larger cost-benefit ratios are more desirable.

$$\text{Cost-Benefit Ratio} = \frac{\text{Total Benefit}}{\text{Total Cost}}$$

The following characteristics of cost-benefit analysis should be noted:

- Costs and benefits must be represented in monetary terms.
- Capital-intensive projects are favored over projects with higher recurring costs. This is due, in part, to the manner that recurring costs are often accounted for in the cost-benefit analysis.
- Analysis is dependent on the selected discount rate.²³ (Benefits and costs should be adjusted to constant dollars.)
- The method chosen for the handling of recurring costs and savings can lead to ambiguities.

Despite these shortfalls, the advantages of cost-benefit analysis include the following:

- Project comparison on a common scale.
- Direct indication if a project is worthwhile (>1).
- Easy method to rank projects.

²¹For example, the impact of stealth and extensive avionics on the cost per pound is yet unknown. Another parametric method is "cost per line of code." With the advent of auto-coding techniques, this method is being replaced with a more reliable "cost per functional parameter" for software systems.

²²White House Office of Management and Budget (OMB). Circular Number A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, 29 October 1992. <http://www.whitehouse.gov/OMB/circulars/a094/a094.html> (30 October 2000).

²³The discount rate is the adjustment of the value of money over time. A dollar today is worth more than a dollar tomorrow because a dollar today can be invested and achieve a rate of return that provides more money in the future. The discount rate is higher than the inflation rate and interest rate and can be estimated by determining the rate of return on the next best project not selected for funding. Typical discount rate values for commercial projects are 10–20 percent representing the options investors have to invest in other companies or industries. Refer to OMB Circular Number A-94 for annually updated discount rates for cost-benefit analyses.

This methodology is used to evaluate a wide array of government projects, but it is not commonly used to evaluate industry investments since it does not address their financial rate of return directly.

Cost Effectiveness Analysis

Cost effectiveness analysis is used in those cases where project benefit cannot be expressed in monetary terms but, rather, in “units of benefit.”

$$\text{Cost Effectiveness} = \frac{\text{Units of Benefit}}{\text{Cost}}$$

An example of units of benefit may be “lives saved per dollar,” as in the case of flight safety, or “targets destroyed per dollar,” as in the case of weapon systems

Cost-of-Delay Analysis

Cost-of-delay analysis quantifies the value of time to a development project’s critical path and weighs that value against other aspects of the project, including development cost, production cost, and system performance. This quantification was the catalyst that triggered a major push to shorten development times in industry beginning in the mid-1980s. This method is required for all analyses of alternatives and milestone decisions.²⁴

In any development project, there are four key competing objectives — development time, development cost, production cost, and system operating performance. These competing objectives are illustrated in Figure 4-2.

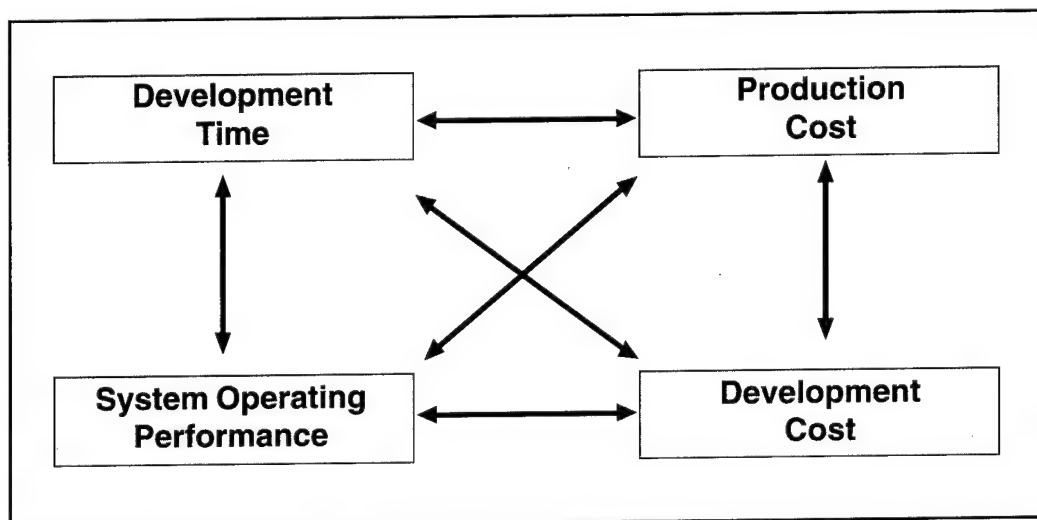


Figure 4-2. Competing Economic Objectives in a Development Project

²⁴ As directed by Dr. Jacques Gansler in a 9 July 1999 memorandum. <http://www.acq.osd.mil/ar/section912/req-cycmemo.pdf>

Any one of these four objectives can be traded against another. For example, more time and money can be spent in development to lower production costs or to increase operational performance. These objectives must be appropriately balanced to achieve an optimum result.

Such optimization requires determination of how a change in the attainment of each objective might affect the overall value of a project. This is done by expressing the economic consequences of changes in each of these individual objectives in terms of dollars, which enables trade-offs to be made among multiple objectives. Additional information on Cost-of-Delay Analysis and associated training is available at the Air Force Cycle-Time Reduction Web page http://www.safaq.hq.af.mil/acq_ref/cycletime.²⁵

Joint Cost Models

Joint cost models (JCM) are another method that can be used to assess the cost of production programs. Joint cost models are typically used when project costs are relatively well understood.

Programs, such as the Joint Direct Attack Munitions (JDAM) and the C-17, employed extensive cost models that enabled contractors and government to gain insight to the cost basis of producing the weapon systems. By establishing a common understanding and agreeing to the cost estimates, a firm basis for the structure of the incentives can be determined. Additional information on what a JCM actually is or does is available from the Lean Aerospace Initiative (LAI).²⁶

A JCM should: 1) define a long-term product cost curve; 2) anticipate future reductions in cost reflecting mutually agreed-upon investments; 3) facilitate understanding of content, assumptions, risk, and logic by both customer and contractor; and 4) be modified when the original conditions or assumptions no longer pertain.

A JCM may accommodate: 1) quantity and rate changes, 2) new technology and configuration changes, 3) fluctuations in commodity materials rates and inflation rates, and 4) price fluctuations due to changes in business base.

Price Commitment Curves

A price commitment curve is an agreed-to price typically based over a number of recurring production lots. The agreed-to price commitment curve provides the contractors strong incentives to work to reduce production costs and allows the government to share in the results. Programs, such as the JDAM and the Advanced Medium-Range Air-to-Air Missile (AMRAAM), have successfully used price commitment curves to establish prices for production lots that reward the contractors and the government for their efforts to reduce production costs. The agreed-to future price of items gives the contractor the price stability and the longer-term price commitments necessary to justify additional corporate investments in future cost reduction.

²⁵ Assistant Secretary of the Air Force (Acquisition). "Air Force Cycle Time Reduction." www.safaq.hq.af.mil/acq_ref/cycletime (30 October 2000).

²⁶ Massachusetts Institute of Technology. "Lean Aerospace Initiative." <http://web.mit.edu/afs/athena.mit.edu/org/ll/lean/> (30 October 2000).

Risk Assessment

In the above discussions of business case analysis, costs and benefits have been assessed independent of risk. Risk, however, is a critical consideration when weighing benefits. Clearly, an expected benefit of a million dollars that has an associated potential downside of \$10 million may not be as attractive as an option that is certain to return \$500,000.

Risk assessment²⁷ (analysis) is the process of examining each identified program risk and critical technical item risk. The analysis describes each risk, isolates its cause, describes its program impact in terms of its probability (or uncertainty) of occurrence, predicts its consequence of occurrence, and describes its relationship to other risk areas or processes.

Some amount of risk is good if its rewards outweigh potential impacts. Elaborate analysis methods have been developed to evaluate the risk associated with contractor proposals. Government program offices usually evaluate technical, cost, and schedule risk associated with a program; and they often require submission by the contractor of a risk management plan.

Critical Processes Assessment Tool

The Critical Process Assessment Tool (CPAT) is one tool used by the Air Force to assess risk. Developed by Air Force Space and Missile Systems Center, CPAT supports programs in preparing for:

- Requests for proposals;
- Subsequent source selection (for competitive procurements);
- Technical evaluations and fact finding (for noncompetitive contract actions); and
- Participation in or review of contract execution after contract award.

CPATs, organized as several individual functional modules, are applicable to processes that are considered to be critical to the execution of the contract, such as systems engineering, reliability, survivability, manufacturing, and risk assessment. The Risk Management CPAT provides support for the risk management process.

Each CPAT module consists of a template of text that, first, provides an overview of the function corresponding to the critical process — in this case, risk assessment — and aids in determining if this process is critical to a given contract. The Risk Assessment CPAT then decomposes risk assessment into generic performance objectives that the project officer and engineer can tailor to a specific contract.

For each objective, the CPAT defines a series of performance-oriented source selection standards and questions that the user can tailor to the program to assess the contractor's approach prior to contract award and progress after award. These questions can be used for several purposes, including risk identification, independent assessment of the risk management process, and preparation for major program reviews and milestones.

²⁷ Information on risk management and economic tools can be found at the National Association for Business Economics Website at www.nabe.com (30 October 2000).

CPATS are written functionally so that their implementation applies regardless of the particular approach proposed by the contractor. CPATs do not define *how* to accomplish the function but rather *what* the critical process needs to accomplish. In applying the Risk Assessment CPAT, it is important to remember that the CPAT should be tailored to the objectives, risks, and scope of each specific contract. Further discussion and downloadable modules can be found at <http://ax.laafb.af.mil/axm/axmp/CPAT/cpat.html>.²⁸

Risk Radar

Risk Radar© is another risk (analysis) management tool designed to assist project managers in identifying, prioritizing and communicating project risks. Risk Radar© is a database with standard database functions to add and delete risks, as well as specialized functions for prioritizing and retiring project risks. Each risk can have a user-defined risk management plan and a log of historical events.²⁹

For each risk, the user completes certain fields to characterize each risk, as shown in Figure 4-3.

Contingency Plan	Impact Horizon	Probability
Rank	Risk Manager	Control (Internal/ External)
Risk Area/Type	Days to Impact Time Frame	Risk Exposure
Description	Data Identified	Impact
Title	Program Areas Affected by Risk	Impact Time Frame
Status	Affected Phase(s)	

Figure 4-3. Risk Radar Fields

The application then draws data from the risk database and displays the data in five separate categories based on time:

- Total number of risks;
- Impact time frame in past (risks having an overdue impact date);
- Number of short-term risks;
- Number of midterms risks; and
- Number of long-term risks.

For each category, the risk impact is plotted against the probability of its occurrence.

²⁸ Air Force Space and Missile Systems Center Directorate of Systems Acquisition. "CPATs and Guide Spec." <http://ax.laafb.af.mil/axm/axmp/CPAT/cpat.html> (30 October 2000).

²⁹ Software Program Manager's Network. <http://www.spmn.com> (30 October 2000).

Industry Tools and Methodologies

Industry uses a wide range of tools to determine where to invest its money to return the most benefit. Methods such as payback period, net present value, and internal rate of return are some of the basic tools used by industry to assess the risks and potential rewards involved in contracting with the government or other commercial entities. A description of these and other tools follow. These descriptions will give the reader an understanding of the processes used by commercial interests to assess value and risk prior to entering into business agreements and to provide basic insight to contractor motivation.

Payback Period

Payback period is the simplest of economic analysis methods and is usually used for small investments. The payback period is the number of periods, usually measured in years, it takes for the net, undiscounted benefits of each period to equal (to pay back) the initial investment.

$$\text{Payback Period} = \text{Initial Investment} / \text{Annual Net Undiscounted Benefits}$$

Companies can rank-order projects by their payback period — the shorter the payback period, the better the investment. The greatest advantage of the payback period method is that it is simple and easily applied. Payback period is good for small investments and is a method for screening numerous alternatives.

Situations most attuned to payback period are projects that have a constant benefit over an extended period of time. Such a situation might occur when purchasing manufacturing equipment or when a design change is initiated that could lower the production cost over a number of years. Short payback periods indicate a more rapid payback and more liquidity in investments. Companies that are short on cash flow may weight short payback periods more heavily than others may.

One disadvantage of payback period analysis is that it ignores cash flows after the payback period. As such, it does not account for differing lengths of benefits for different investments or for differing returns after the payback period is satisfied.³⁰ Because of these limitations, payback period is biased against long-term capital intensive projects. The results can be misleading when comparing such alternatives.

³⁰ Summarized from Richard deNeufville, *Applied Systems Analysis: Engineering Planning and Technology Management*. McGraw Hill, 1990.

Net Present Value

Net present value³¹ (NPV) is widely used by industry to evaluate the profitability of success when entering into new business opportunities or investments. The net present value of a project is the difference between the discounted cash flows of a project. The cash flow is simply the benefits minus the cost in each period. The NPV can be calculated as follows:

$$NPV = CF_0 + CF_1/(1+r) + CF_2/(1+r)^2 + \dots + CF_n/(1+r)^n$$

Cash flow (CF) is equal to the benefits minus the costs in each of the periods. This cash flow is discounted by the discount rate (r) representing the conversion of future year money to current year money. Future benefits and costs must be adjusted to be comparable by the discount rate.

Projects with a positive net present value indicate that the return is greater than the discount rate and that the project, if funded, would increase the value of the company. If two projects are competing for funding or are mutually exclusive, the project with the larger net present value should be selected. One drawback of NPV is that it does not recognize the size of the investment required to achieve the results.

Discount Rate

The discount rate³² is a critical aspect of project economic analysis. The discount rate is a measure of the value of money over time. Simply put, a dollar today is worth more than a dollar tomorrow because one can invest the dollar today and have more tomorrow. The discount rate plays a central role in calculating the net present value and determining the worth of an investment.

The choice of discount rate is critical when comparing alternative approaches. Low discount rates will favor capital-intensive projects with low operating costs. High discount rates will favor solutions with lower investment costs but higher operating costs. The discount rate, however, can be estimated as the rate of return on the last investment not funded. The rate for the commercial industry is typically between 10 percent and 15 percent depending on the risk and stability of the industry.

A related difficulty with using NPV is that it is largely limited to comparing projects within an organization, presumably with the same opportunity cost of capital or discount rate. Using different rates can change NPV rankings and, therefore, is not useful for comparisons between organizations — especially those of different size.

³¹For further discussion of net present value, refer to University of South Carolina, School of Public Health, Department of Health Administration, "Economics Interactive Tutorials," <http://hadm.sph.sc.edu/COURSES/ECON/Tutorials.html> (30 October 2000).

³²Annual updates of discount rates can be found at White House Office of Management and Budget (OMB), *Circular Number A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs*, 29 October 1992, <http://www.whitehouse.gov/OMB/circulars/a094/1094.htm> (30 October 2000).

Internal Rate of Return

While net present value provides an absolute measure of value of an outflow-inflow stream, the “hurdle rate” or internal rate of return³³ (IRR) provides a relative measure of value. The IRR is the discount rate for which the net present value of a project is zero.

$$NPV = CF_0 + CF_1/(1+r) + CF_2/(1+r)^2 + \dots + CF_n/(1+r)^n = 0$$

Here, the project’s discounted cash flows equal the present value of the investment cost. The acceptability of a given IRR is determined by comparing it to the required rate of return. An IRR is acceptable if it is higher than the required rate of return. The advantages of using IRR are that, like payback period, it uses cash flows and it recognizes the time value of money.

The disadvantages are that using the process can be complicated and time-consuming, and there is a possibility of dealing with multiple internal rates of return. Much of the concern of calculating the IRR, however, has been eliminated, since IRR is a standard function in most spreadsheet applications and many calculators. Values also can be determined by trial and error by trying different discount rates until the net present value equals zero.

³³For further discussion of internal rate of return, refer to University of South Carolina, School of Public Health, Department of Health Administration, “Economics Interactive Tutorials,” <http://hadm.sph.sc.edu/COURSES/ECON/Tutorials.html> (30 October 2000).

5. How do you build an incentive strategy that maximizes value?

a. Use the business case as a common baseline, but account for change.

A balance of risk and reward is required for a successful business relationship. Based on partnering, communication, trust, and mutual understanding of the acquisition business case, incentive strategies can be applied. These strategies show contractors that their objectives can best be met by successfully meeting the government's objectives. This requires innovation, common sense, and sound business judgment.

The procurement environment within which business operates is characterized by uncertainty, change, and a crucial need for flexibility. Providing incentives by selecting various types of contracts provides only a basic incentive structure and makes no comprehensive provision for changes in emphasis after contract award.

To be effective, incentives must simultaneously overcome and be integrated with any contract type-based structural incentives inherent in a project. For example, on a cost-plus contract, a 5 percent award fee for reducing cost may be insignificant compared to the increase in the overhead reimbursement of cost increase. Understanding the structural incentives can assist in crafting effective incentive strategies.

A key point is that the costs and benefits of various incentive strategies are not symmetrical. Some strategies can assist a company significantly, yet cost the government little. For example, time can be a significant factor in maximizing value for a government project. It affects the customer, the acquisition community, the budget community, and the logistics community. A study by the MIT Lean Aerospace Initiative provides significant information on the state of current schedule-related incentives.

Areas to incentivize also may need to be changed during performance since the objectives with which the parties approach the contract may vary. Therefore, it is essential to consider what might affect the environment and to change the original assumptions or parameters that originally were used as a baseline to develop the strategy.

The incentives consideration list, as shown in Figure 5-1, is by no means exhaustive; it represents a baseline summary of primary topics and issues to consider in developing an incentive strategy.

- What practices motivate contractors to invest resources to achieve the goals?
- What aspects (importance and impact) of performance should be incentivized?
- What is the government environment specific to this acquisition?
- Are there political issues that impact the government or the contractor?
- What form should the incentive take?
- How should the government communicate its strategy to industry?
- When does the government reward the contractor?
- What is the contractor environment (goals, outcomes, and industry-wide issues)?
- Where does the particular program fit within the company?
- How does the prime communicate with its subcontractors (incentive flowdown)?
- Are there any goals with which the incentives conflict?
- As goals are achieved, how can the contractor share in the compensation?
- Are the incentives effective?
- Do they focus on the objectives?
- How effective are the tools and processes management uses to monitor and analyze performance?
- Are there sufficient schedule and resources available to meet goals and objectives?
- Is there flexibility?
- Will the values originally assigned to performance and delivery incentives change?
- Will the originally determined range of effectiveness remain realistic throughout the contract life?
- Will the objectives with which the contractor approaches performance under the contract change?
- How will change in the overall mix of the contractor's types of contracts and requirements affect the behavior and the performance?
- How does one flexibly maintain the right incentives for the contractor?

Figure 5-1. Incentives Consideration List

b. Apply multiple concepts as indicated by the business case.

In reality, effective incentive strategies for an individual procurement may include several concepts and innovative applications to provide the behavior desired while simultaneously achieving the shared value that the parties seek through the business relationship. This includes rewards for the contractor's commitment and acceptance of risks and establishment of consequences to assure that, if for some reason there is no longer a chance for winning the reward, there is still commitment to achieving the objectives of the project. The spectrum of incentives can include the following:

Schedule-Based Incentives

Schedule-based incentives target a commitment from the contractor to deliver a system or objective at a time desired by the customer. The specific incentive or incentives reward the contractor for a commitment to the schedule risk. Schedule risks may be very high since the customer requirements may not remain firm, and the impact of changes cannot be predicated with reasonable accuracy. The reward to the contractor for accepting schedule risks must be consistent with the level of risk.

Preproduction schedule objectives and risks differ from production schedule objectives and risks. The preproduction challenges usually are unknowns in technology readiness and instability in requirements and funding. Production schedules are driven by manufacturing unknowns, supply of materials and parts, labor, etc., and therefore represent a greater risk to the customer than to the contractor.

Cost-Based Incentives

Cost-based incentives may target achievement of a unit cost objective. A cost incentive is an arrangement whereby the contractor's profit or fee increases or decreases as his actual costs fall below or above the contract target cost. The arrangement must be written so that it offers the contractor rewards commensurate with the risks assumed. The arrangement must not create a situation in which cost is overemphasized or underemphasized relative to other procurement objectives. Satisfaction of these criteria requires that each cost-incentive reward reflects the characteristics and problems of a particular procurement and an individual contractor.

Performance-Based Incentives

Incentives should be used when they will induce better quality performance. They may be positive, negative, or a combination of both. They should be applied selectively to motivate contractor efforts, which might not otherwise be emphasized, and to discourage inefficiency. Incentives should apply to the most important aspects of the work rather than to each individual task.

Negative incentives include any contract provision that causes a contractor to take action in order to avoid an undesirable result. Deductions may be selected as a negative incentive. If so, the deduction should represent as closely as possible the value of the service lost. This amount can be computed by determining the percentage of contract costs associated with each task. For example, if a given task represents 10 percent of the contract costs, then 10 percent will be the potential maximum deduction in case of task failure. Similarly, if a task is not performed according to the requirements stated in the contract, deductions can be computed based upon tables or formulas designed to reflect the value of substandard output.

Effective performance-based contracts:

- Define work in measurable, mission-related terms;
- Contain performance standards;
- Include quality assurance plans for measuring performance; and
- Provide financial incentives and penalties based on performance.

Performance incentives should be challenging yet reasonably attainable. The goal is to reward contractors for outstanding work but not to penalize them for work that is fully satisfactory but less than outstanding.

The definitions of standard performance, maximum positive and negative performance incentives, and the units of measurement should be established in the beginning. They will vary from contract to contract and are subject to discussion during a source selection. Care must be taken to ensure that the incentive structure reflects both the value to the government of the various performance levels and a meaningful incentive to the contractor.

Incentives should correlate with results. Agencies should avoid rewarding contractors for simply meeting minimum standards of contract performance and should, instead, create a proper balance between cost, performance, and schedule incentives. The incentive amount should correspond to the difficulty of the task required but should not exceed the value of the benefits the government receives. Agencies need to follow-up to ensure that desired results are realized (i.e., that incentives actually encourage good performance and discourage unsatisfactory performance). Verifying the effectiveness of the incentives used is important.

Organization and Individual Incentives

Organization and individual incentives can be an effective tool in producing the desired performance. For a major system program, how does one incentivize the contractor to imbed the concepts of schedule performance within an organization? For a services contract, how

³⁴Kausal, B.A., "Peace Shield – A Study in Motivation." Defense Systems Management College. <http://www.dsmc.dsm.mil/pubs/pdf/pmpdf96/kausma96.pdf> (30 October 2000).

³⁵FAR 32.104(a).

does the government ensure that performance is embedded as a desired behavior on the part of the contractor? One way is to incentivize individual employee performance with a direct monetary payout based on a percentage of savings or fee award, driving the incentives down to the lowest levels within the company. An example of this is the very successful Peace Shield³⁴ program.

Terms and Conditions

Terms and conditions are another way to achieve an incentive through the operation of the basic contract structure. Contract financing is an example of how this works. Performance-Based Payments (PBP) are an effective means of providing contract financing, with reduced burden to both the government and industry. PBPs can be provided, "...only to the extent actually needed for prompt and efficient performance, considering the availability of private financing."³⁵ The use of PBPs will be viewed as an incentive to contractors who might otherwise not be able to compete or have the opportunity to successfully perform because of a variety of legitimate reasons.

Supply-Chain Incentives

Incentive strategies can be constructed to encourage prime contractors to motivate their suppliers to success in all parts of the acquisition process. For example, "value-based" incentives can be used during the design phase of a project or for parts sustainment contracts. Contract incentives should be introduced prior to development so that suppliers can optimize component designs. Prime contracts with their suppliers can incorporate incentive clauses that modify the price based on performance so that the subcontractor earns more profit as the part brings more value to the program. The incentive is derived from the design objective for the part. Suppliers will optimize part designs to maximize their own profits.

The real power of contract incentives, whether in supplier contracts or government prime contracts, is that the contractor will continually improve performance and decrease manufacturing cost to improve its own profitability. In many cases, the organizations with the greatest hold on costs have no motivation to reduce costs. Properly constructed supplier incentives can make reducing cost and improving efficiency a primary interest of every firm in the supply chain.

c. Select from a compendium of contractual incentives.

The *Compendium of Contractual Incentives* (CCI) captures a baseline list of contractual incentives that can be considered after real insight to the business case has been established. It is a step in the ongoing process of designing more effective incentive strategies.³⁶ A summary of the incentives is

³⁶ Assistant Secretary of the Army (Acquisition, Logistics, and Technology). Constructing Successful Business Relationships: Innovations in Contractual Incentives, p. 52/Appendix B. <http://acqnet.sarda.army.mil/library/final/finalfrm.htm> (30 October 2000).

provided in Figure 6-2. Each incentive is presented individually and contains the following information, which is based on the definition of a contractual incentive:

- Title
- Category Identification (as a “contract incentive” or “incentive relationship/strategy”)
- Description of the Incentive (e.g., characteristics, structure)
- Target of Use (e.g., applicability based on factors and influences)
- Elements of Use (notes on the structure and characteristics of the incentive)
- Pros (benefits of use)
- Cautions (areas of concern or issues associated with the incentive’s characteristics)
- Examples (of the incentive in use, where applicable).

Contractual Incentive	Contract Incentive	Incentive Relationship/ Strategy
Award Term Contracting	X	
Award Fee	X	
Business Case Negotiation of Intellectual Property	X	
Commercial-Government Technology Integration		X
Composite Facility Integrated Award Fee	X	
Contingent Contracting		X
Corporate and Individual Contractor Incentives	X	
Commercial Products Produced to Government Requirements		X
Early Completion Bonus		X
Fast Cash		X
Graduated Award Fee	X	
Incentives for Government Organizations	X	
Incremental Award Fee	X	
Interest-Based Negotiation		X
Joint Venture Shared Responsibility		X
Long-Term Award Contracting (Production)		X
Multiple Incentives (Parts and Supplies)		X
New Business Entry Incentives		X
Nontraditional Incentives		X
Ownership Contracting		X
Performance-Based Incentives		X
Performance-Based Payments (PBP)	X	
Reduction in Total Overhead Costs		X
Reliability Improvement Warranty (RIW)		X
Share in Savings (SIS)		X
Shared Infrastructure Contracting		X
Subcontractor Profit/Fee Pools	X	
Subcontractor Value-Focused Relationship		X
Total System Performance Responsibility (TSPR)		X
Tournament Contracting	X	

Figure 6-2. Contractual Incentives

Concepts and Definitions

Contractual Incentives

Contractual incentives consist of both contract incentives and incentive relationships and strategies. *Contract Incentive* refers to the monetary or nonmonetary structural motivators that are embodied in or arising from the terms and conditions of the contract and that influence the behavior of the buyer and the seller toward accomplishing desired contractual outcomes. *Incentive Relationship and Strategy* refers to those factors that influence the motivation of the buyer and the seller and achieve their goals through an acquisition or management approach or through strategy that impacts their approach to the total business process.

Total Business Process

The *total business process* includes requirements generation and definition, acquisition strategy and business case considerations, the award process, and post-award performance — all focused on attaining desired outcomes.

Acquisition (Procurement) Business Case

The *acquisition or procurement business case* encompasses the acquisition environment and events, the factors and influences impacting upon the potential business relationship, and the beliefs of the parties involved in the relationship. The terms *acquisition* and *procurement* are used interchangeably within the Guidebook.

Shared Value

Shared value is the concept that the government and the contractor generally share a common set of top-level goals that also define “value for their constituencies.” At first glance, the goals of the government customer — the taxpayer and warfighter— and the contractor may seem contradictory. However, these common goals include the achievement of customer satisfaction, program stability, and positive program and financial performance. Participants in successful business relationships develop a shared ability to find mutually beneficial solutions to achieve these goals.

With program success mutually dependent on the individual success of the participants, it is likely that neither a government nor a contractor team will succeed if their counterparts are failing. The value interests of both can be met if this is recognized and considered throughout the relationship. Success depends not only upon each side looking out for its own interests but also seeking to understand the other side’s perspectives and goals. This is critical to successfully understanding the procurement business case and creating a successful business relationship.

Partnering

Partnering constitutes a mutual commitment by the parties about how they will interact during the course of the contract with the primary objective of facilitating improved contract performance and goal achievement through enhanced communications.

Balanced Focus

Balanced focus is the concept that, within a successful business relationship, the government and the contractor focus on real, mutual understanding not only of the areas of performance interest but also on the procurement business case. For the government, this will likely include reduced total operating costs and performance that meets or exceeds stated performance requirements. For the contractor, it likely includes a stable program, the generation of positive cash flow and profit, and a satisfied government customer. Incentive strategies not based on a sound understanding of the business case risk incentivizing the wrong behavior and jeopardizing successful delivery of the requirement.

Factor CollaborationSM

Factor CollaborationSM is but one nonproprietary process by which both partners assess the influences and factors that impact the structure of a potential business relationship. This methodology promotes and supports a “meeting of the minds” with respect to the procurement and its business case in the important areas of requirements, influences and factors, motivation, and incentives.

Factor CollaborationSM, as part of a comprehensive examination and understanding of the procurement business case, facilitates the gathering of critical information necessary to the construction of a successful business relationship and can be applied to both sole source and competitive situations.

Sole Source

As early as possible, both the government and the contractor review the factors they believe are relevant to the procurement. The government will generally have greater initial insight into the factors relevant to the requirement and procurement strategy, while the contractor will generally have greater initial insight into factors relevant to their internal decision making.

The government and the contractor must openly and honestly assess all of the factors because their unique perspectives are the basis for defining the most effective contractual incentives for the acquisition. In some cases, perspectives will overlap; while in other cases, perspectives will diverge, given the factors considered and the level of insight and information available to each party.

Exploring these “*differences in perspective*” should surface critical information necessary for a more complete understanding of the business case. This process will help the parties collaboratively define an incentive approach that (1) recognizes the needs and motivations of the parties at that particular point in time and through the period of performance and (2) reflects a contract strategy that the government believes will ensure successful delivery of the requirement.

Competitive

Factor CollaborationSM can be particularly useful within a competitive environment. Certain information may not be available initially as in the sole source environment; however, when given the guidance in FAR Part 15.2 on communication between the government and the offerors, it may now be easier to conduct the analysis discussed above without affecting the integrity of the source selection process.

Exchanges with potential offerors, prior to release of the request for proposal (RFP) and receipt of proposal, would be similar to the current process involving early involvement, such as industry forums, draft RFP exchanges, and so on. Latitude is required in Section L and Section M of the RFP for offerors to propose different or innovative incentives.

After receipt of proposals, discussions based on the individual contractor's approach and its perspective on the factors could include tailoring contractual incentives appropriate for that offeror and its potential relationship with the government. One example might be the prospective tailoring of incentives to improve performance of the potential offeror in an area identified as weak but necessary for the success of the delivery, through evaluation of past contractor performance.

Individual contract arrangements might differ among contractors. The integrity of the source selection process, however, must be maintained. Discussions may not impart a unique advantage or provide insight to another's proposal or approach. The goal is to enable the offeror to provide the best possible proposal and for the government to improve the probability of the successful delivery of the requirement.

As part of the award, the terms and conditions of the successful offeror's contract could address tailoring the incentives through an "incentive adjustment plan," laid out in the successful offeror's proposal. During the subsequent period of performance, this post-award tailoring could address improvements to the incentives that were applied, based upon changes in the factors affecting the business relationship.

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